

Serial No. 10/707,567
Filed: December 22, 2003
Page 5 of 10

Examiner: Ricky D. Shafer
Group Art Unit: 2872

Amendments to the Drawings:

The attached sheets of drawings include changes to Figures 12, 16, and 18. These sheets, which include Figures 12, 16, and 18, replace the original sheets including Figures 12, 16, and 18.

Attachment: Replacement Sheets
Annotated Sheets Showing Changes

REMARKS/ARGUMENTS

Claims 3-6, 8, 12-14, and 26 are pending in this application, and stand rejected. Claims 14 and 26 have been amended in this paper.

The drawings stand objected to, and have been amended in this paper in response to the objections.

Applicant believes the amendments made herein add no new matter. Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based on prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to be attached thereto. Reconsideration and reexamination of the application is respectfully requested in view of the amendments and the following remarks.

Objections to the Drawings

The drawings stand objected to on various grounds. The objection is traversed.

The Examiner asserts that element 84, shown in Figure 12, does not properly point to the compression spring. Figure 12 has been amended so that element 84 points to the compression spring.

The Examiner asserts that element 128 shown in Figure 16 fails to include a lead line. Figure 16 has been amended to show a lead line from element 128 to the appropriate structural element.

The Examiner asserts that element 132 shown in Figure 16 does not properly point to the spring channel. The lead lines from element 132 have been redrawn in Figure 16 to more clearly point to the spring channel.

The Examiner asserts that reference numeral 174, shown in Figure 18, lacks a proper written description. Figure 18 has been amended to change reference numeral 174 to reference numeral 142, which has a proper written description. Moreover, reference numeral 168 has been changed to reference numeral 169 to correct a typographic error.

Applicant believes the amendments to the drawings resolve the asserted objections. Applicant requests that the objections be withdrawn and the drawings be approved.

Rejection under 35 U.S.C. §112, ¶1

Claims 3-6, 8, 12-14, and 26 stand rejected under 35 U.S.C. §112, paragraph 1, as allegedly failing to comply with the written description requirement. The rejection is traversed.

The Examiner asserts that the claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. The Examiner asserts that the specification, as originally filed, does not provide support for "the ball and socket allows the actuator to slip and prevent damage thereto," as recited in claim 26, lines 11-12. The Examiner also asserts that the specification, as originally filed, does not provide support for "the compression member...apply a compression force on the ball for operation of the actuator," as recited in claim 26, lines 7-8. Finally, the Examiner asserts that the specification, as originally filed, does not provide support for "in the second mode the actuator is placed in an impeded mode of operation," as recited in claim 26, lines 10-11. The Examiner asserts that the clutch is the only element disclosed which is capable of the above-mentioned structural and operational details, referring to paragraph [0006] of the specification, which has been deleted from claim 26.

Claim 26 has been amended to call for an actuator assembly, rather than an actuator. As set forth in paragraph [0034] of the specification, as originally filed, the actuator assembly comprises one or more jackscrews which operate within a preselected linear range of travel to tilt

the reflective element. Unrestricted operation of the actuator assembly resulting in movement of the jackscrew within the preselected linear range of travel is referred to herein as a "normal mode of operation." Restricted operation of the actuator assembly, for example, after the jackscrew is moved to the limit of the preselected linear range of travel, or in the situation in which the jackscrew is prevented from movement within the linear range of travel due, for example, to an obstruction of the movement of the reflective element, is referred to herein as an "impeded mode of operation."

Amended claim 26 calls for the ball and socket to allow the actuator assembly to slip, and does not call for prevention of damage to the actuator. The specification provides support for this limitation. Paragraph [0039] states "However, the compression spring 86, the arcuate walls 68, and the head 54 are also cooperatively adapted so that when the jackscrews 46 reach the inner or outer limits of their movement, the friction between the spherical inner surface 71 and the spherical surface 58 will be overcome and the head 54 will rotate within the head cavity 80." Paragraph [0054] states "However, when the mirror system is placed in an impeded mode of operation..., the head 54 will then turn within the socket 66...." The ball is part of the jackscrew. The jackscrew is part of the actuator assembly. The referenced paragraphs indicate that, in an impeded mode of operation, the actuator assembly is allowed to slip by the interaction of the ball and socket. Thus, the specification provides support for this limitation of claim 26.

Amended claim 26 calls for a compression element mounted around the socket having the ball cradled therein to apply a compression force on the ball for operation of the actuator assembly in a first mode. The specification provides support for this limitation. Paragraph [0037] states "In a first embodiment illustrated in Figures 9 and 10, a compression element comprising a compression spring 86 is snapfit circumferentially around the arcuate walls 68 and is adapted for providing a radially inward compressive force to the arcuate walls 68. ... The compression spring 86, the arcuate walls 68, and the head 54 are cooperatively adapted so that friction between the spherical inner surface 71 and the spherical surface 58 will prevent the jackscrews 46 from rotating relative to the sockets 66 so that the jackscrews 46 will translate

coaxially with the rotation of the drive gears 44 during a normal range of travel of the jackscrews 46 between the retracted and extended positions.... The frictional force between this vertical inner surface 71 and the spherical surface 58 can be selectively adjusted by adjusting the compressive force exerted by the compression spring 86."

It is clear that the compression element provides a compressive force on the ball through the arcuate walls 68 for operation of the actuator assembly in a first mode. The compression element applies a radially inward compressive force to the arcuate walls 68. The arcuate walls 68 are in frictional contact with the ball. Thus, compression applied to the arcuate walls 68 will urge the arcuate walls 68 into contact with the ball during a normal range of travel, i.e. the first mode of operation. The specification provides support for this limitation of claim 26.

Amended claim 26 also calls for the actuator assembly to be placed in an impeded mode of operation in the second mode. As discussed above, unrestricted operation of the actuator assembly is referred to as a "normal mode of operation." Restricted operation of the actuator assembly is referred to as an "impeded mode of operation." Thus, there are two modes of operation. Claim 26 calls for the normal mode of operation to be a first mode, and the impeded mode of operation to be a second mode. This is fully supported by the specification, particularly the paragraphs cited above. Thus, the specification provides support for this limitation of claim 26.

Claims 3-6, 8, and 12-14 depend from amended claim 26 and, for the same reasons, are supported by the specification. Applicant requests withdrawal of the rejection, and the allowance of claims 3-6, 8, 12-14, and 26.

For the reasons discussed above, all claims remaining in the application are allowable over the prior art. Early notification of allowability is respectfully requested.

If there are any remaining issues which the Examiner believes may be resolved in an interview, the Examiner is respectfully invited to contact the undersigned.

Serial No. 10/707,567
Filed: December 22, 2003
Page 10 of 10

Examiner: Ricky D. Shafer
Group Art Unit: 2872

Respectfully submitted,

IAN BODDY ET AL.

Dated: February 19, 2007

By: /Michael F Kelly/

G. Thomas Williams, Reg. No. 42,228
Michael F. Kelly, Reg. No. 50,859
McGarry Bair PC
171 Monroe Avenue, N.W., Suite 600
Grand Rapids, Michigan 49503
(616) 742-3500

G0281515.DOC

Annotated Sheet

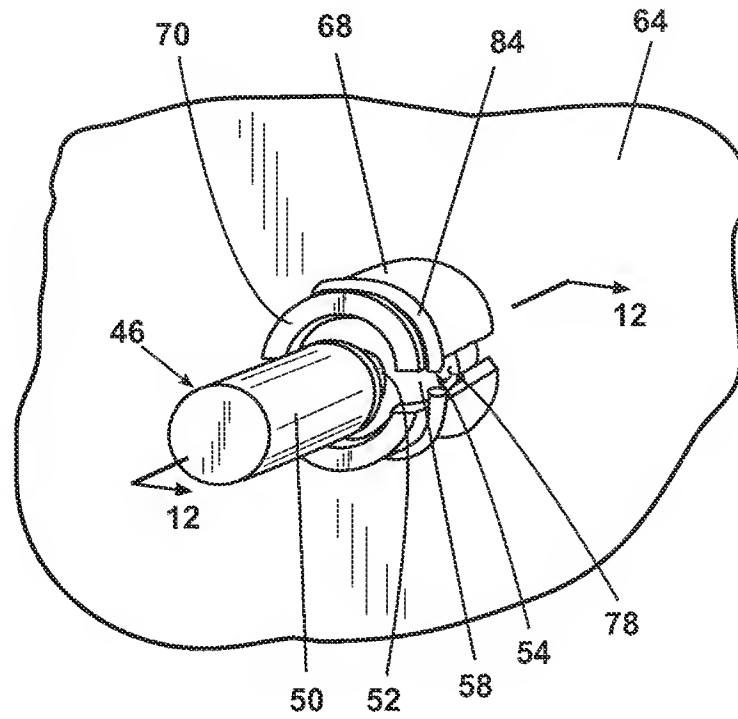


Fig. 11

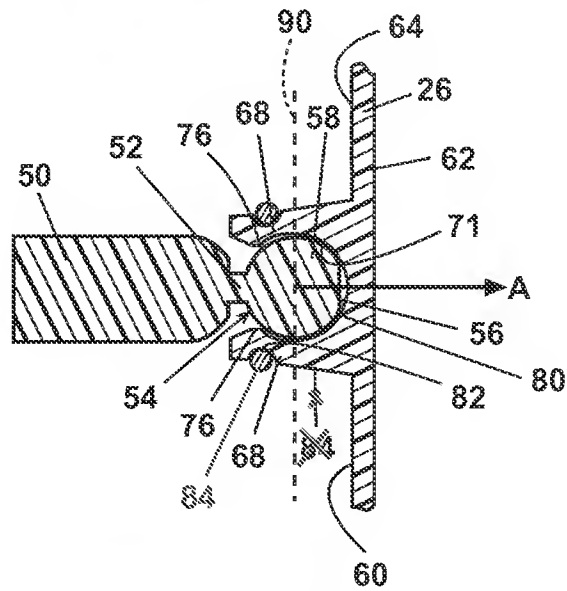


Fig. 12

Annotated Sheet

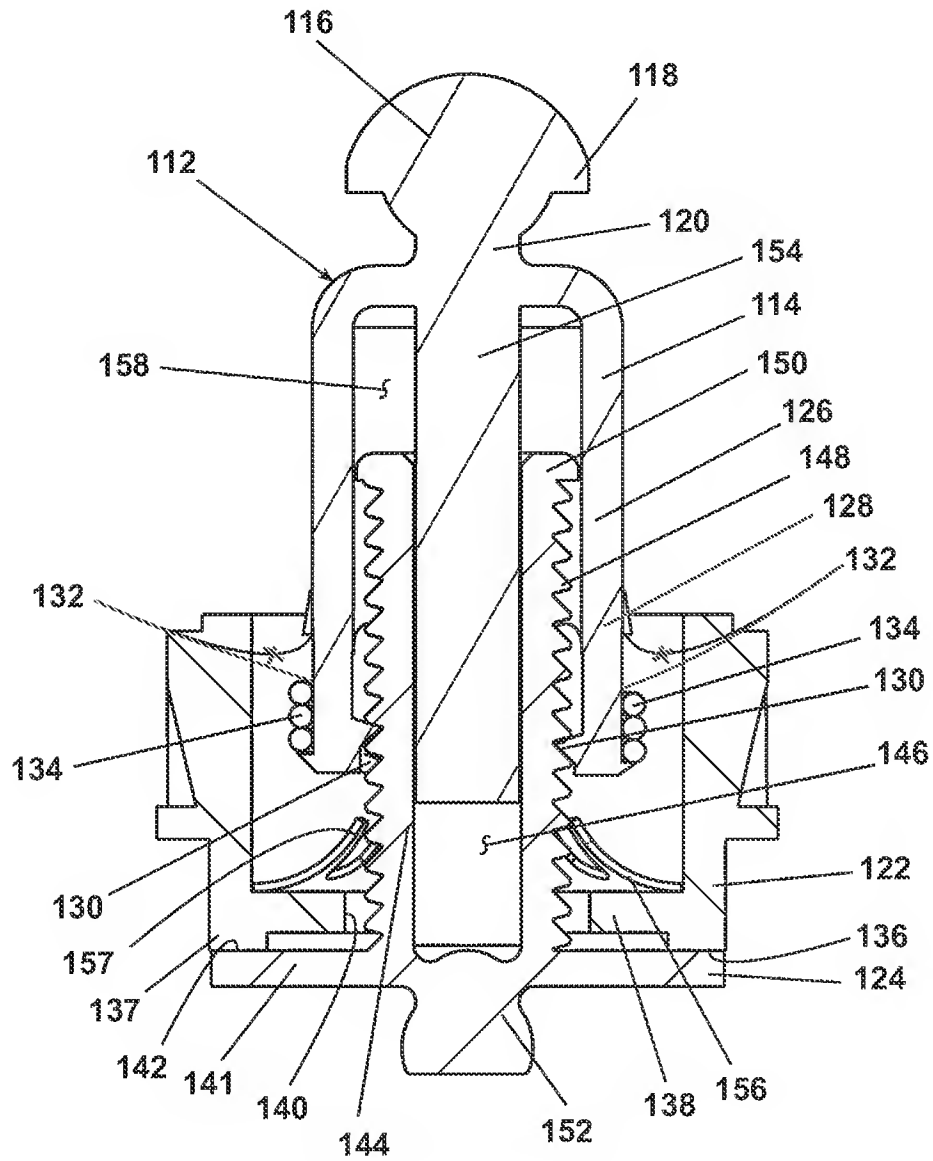


Fig. 16

Annotated Sheet

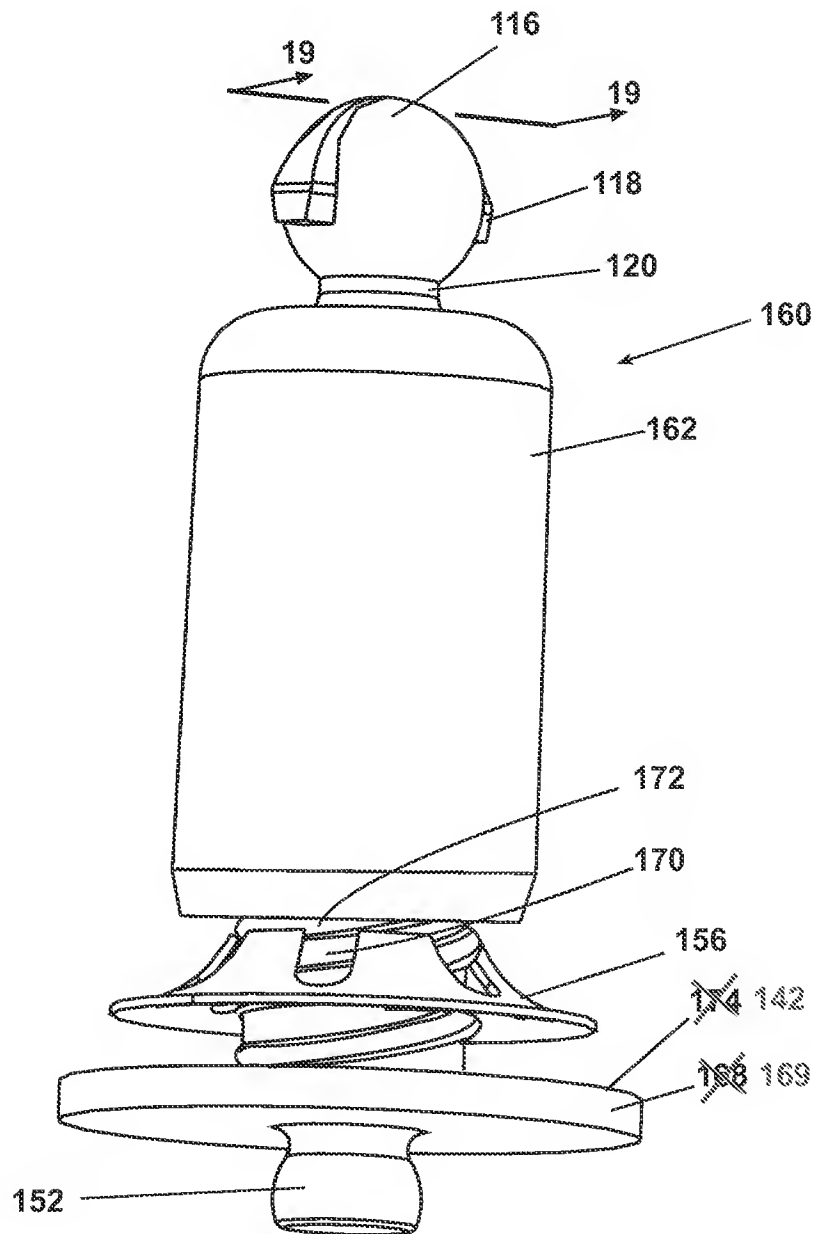


Fig. 18